

PATENT

Application Serial No. 09/904,179

Attorney Ref. No. 050US1

II. Amendments to the Claims:

The following listing will replace all prior versions and listings of claims in this application:

1. (Currently amended) An intervertebral support system, comprising:
 - a center portion dimensioned to be positioned in an intervertebral space, said center portion having top and bottom recesses facing generally cranially and caudally when the center portion is positioned within the intervertebral space;
 - a top portion having a bottom recess facing generally caudally and, the bottom recess in the top portion interlocking with the top recess in the center portion when the top portion is positioned on top of the center portion within the intervertebral space; and
 - a bottom portion having a top recess facing generally cranially and, the top recess in the bottom position interlocking with the bottom recess in the center portion when the center portion is positioned on top of the bottom portion within the intervertebral space.
2. (Original) The intervertebral support system of claim 1, wherein the top and bottom recesses in the center portion are generally centrally located mid-way along the length of the center portion.
3. (Original) The intervertebral support system of claim 1, wherein the bottom recess in the top portion and the top recess in the bottom portion are generally centrally located mid-way along the length of the respective top and bottom portions.
4. (Original) The intervertebral support system of claim 1, wherein one end of the center portion is tapered downwardly from a top surface and upwardly from a bottom surface.

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5. (Original) The intervertebral support system of claim 1, wherein each of the top, center and bottom portions have side grooves extending along opposite sides thereof, the side grooves each being adapted to receive a prong of a positioning tool therein.

6. (Currently amended) The intervertebral support system of claim 1, wherein the center portion has a generally flat top surface and a generally flat bottom surface, ~~and wherein~~ the top portion has a generally flat top surface, and ~~wherein~~ the bottom portion has a generally flat bottom surface; ~~wherein such that~~ the top surfaces in the center portion and the top portion are generally co-planar when the top portion is positioned on top of the center portion, and ~~wherein such that~~ the bottom surfaces of the center portion and bottom portion are generally co-planar when the bottom portion is positioned under the center portion.

7. (Original) The intervertebral support system of claim 6, wherein each of the top and bottom surfaces have a plurality of small grooves formed therein, the grooves increasing sliding friction across the top and bottom surfaces.

8. (Currently amended) An The intervertebral support system of claim 1,
comprising:

a center portion having top and bottom recesses;

a top portion having a bottom recess, the bottom recess in the top portion interlocking with the top recess in the center portion when the top portion is positioned on top of the center portion; and

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a bottom portion having a top recess, the top recess in the bottom position interlocking with the bottom recess in the center portion when the center portion is positioned on top of the bottom portion, wherein the top and bottom portions are positioned parallel to one another and perpendicular to the center portion when the top portion is positioned on top of the center portion and the bottom portion is positioned under the center portion.

9. (Original) The intervertebral support system of claim 1, wherein each of the top and bottom portions have a tapered end, and wherein the top and bottom recesses in the center portion each comprise ramp portions which are dimensioned to engage the respective tapered ends of the top and bottom portions such that the center and top portions can be respectively slid over the bottom and center portions with the recesses in the top and bottom portions interlocking with the respective recesses in the center portion.

10. (Original) The intervertebral support system of claim 9, wherein the tapered ends of each of the top and bottom portions assist in advancing the top or bottom portion into a snap-fit position over the top and under the bottom recesses in the center portions.

11. (Original) The intervertebral support system of claim 1, wherein the top and bottom portions are held against the center portion such that the recesses in the top and bottom portions interlock with the recesses in the center portion by pressure exerted between adjacent vertebrae.

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12. (Original) The intervertebral support system of claim 1, wherein each of the top, center and bottom portions of the support assembly are dimensioned to be received through 8 mm surgical cannulae.

13. (Original) The intervertebral support system of claim 1, wherein each of the top, center and bottom portions of the support assembly are dimensioned to be received through 6 mm surgical cannulae.

14. (Original) The intervertebral support system of claim 1, wherein the top and bottom portions are interchangeable.

15. (Original) The intervertebral support system of claim 1, wherein the top, center and bottom portions are made from bone allograft.

16. (Original) The intervertebral support system of claim 1, wherein the top, center and bottom portions are made from metal.

17. (Currently amended) A method of supporting adjacent vertebrae, by assembling an intervertebral support assembly between adjacent vertebrae, comprising:
providing a bottom portion having a top recess, a top portion having a bottom recess, and a center portion having a top recess and a bottom recess;

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advancing a the center bottom portion having a top recess into a patient's intervertebral space such that the top and bottom recesses face generally cranially and caudally within the intervertebral space;

advancing a the top center portion having top and bottom recesses into the patient's intervertebral space such that the bottom recess faces generally caudally within the intervertebral space and interlocks with the top recess of the center portion; and

advancing a the bottom top portion into the patient's intervertebral space such that the top recess faces generally cranially within the intervertebral space and;

wherein the top portion has a bottom recess which interlocks with the top bottom recess in the center portion, and the bottom portion has a top recess which interlocks with the bottom recess in the center portion such that a top surface of the top portion is generally coplanar with the top surface of the center portion, and such that a bottom surface of the bottom portion is generally coplanar with the bottom surface of the center portion.

18. (Currently amended) The A method of claim 17 supporting adjacent vertebrae, by assembling an intervertebral support assembly between adjacent vertebrae, comprising:
advancing a bottom portion having a top recess into a patient's intervertebral space;
advancing a center portion having top and bottom recesses into the patient's intervertebral space; and

advancing a top portion into the patient's intervertebral space, wherein the top portion has a bottom recess which interlocks with the top bottom recess in the center portion, and the bottom portion has a top recess which interlocks with the bottom recess in the center portion such that a top surface of the top portion is generally coplanar with the top surface of the center portion, and

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such that a bottom surface of the bottom portion is generally coplanar with the bottom surface of the center portion, wherein the bottom portion and the top portion are advanced in a first posterolateral approach and the center portion is advanced in a second posterolateral approach, wherein the first posterolateral approach is generally perpendicular to the second posterolateral approach.

19. (Currently amended) The A method of claim 17 supporting adjacent vertebrae, by assembling an intervertebral support assembly between adjacent vertebrae, comprising:

advancing a bottom portion having a top recess into a patient's intervertebral space;
advancing a center portion having top and bottom recesses into the patient's intervertebral space; and
advancing a top portion into the patient's intervertebral space, wherein the top portion has a bottom recess which interlocks with the top bottom recess in the center portion, and the bottom portion has a top recess which interlocks with the bottom recess in the center portion such that a top surface of the top portion is generally coplanar with the top surface of the center portion, and such that a bottom surface of the bottom portion is generally coplanar with the bottom surface of the center portion, wherein the intervertebral support assembly has an X-shape.

20. (Currently amended) The method of claim 17, wherein each of the top, center and bottom portions are advanced into the patient's intervertebral space through minimally invasive surgical procedures cannulae.

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21. (Original) The method of claim 20, wherein the surgical cannulae have an interior diameter not exceeding 8 mm.

22. (Original) The method of claim 20, wherein the surgical cannulae have an interior diameter not exceeding 6 mm.

23. (Original) The method of claim 17, wherein each of the top, center and bottom portions are individually supported by a surgical tool having two prongs, and wherein each of the top, center and bottom portions has side grooves dimensioned to receive one of the two prongs therein.

24. (Original) The method of claim 17, wherein positioning each of the top, center and bottom portions in the patient's intervertebral space assists in prying apart adjacent vertebrae.

25. (Original) The method of claim 17, wherein positioning any of the top, center and bottom portions comprises:

advancing a tapered end of the portion over a ramp surface on an adjacent portion, the ramp surface on the adjacent portion being disposed within a recess on the adjacent portion, wherein a corresponding recess on the portion interlocks with the recess on the adjacent portion.

26. (Currently amended) An intervertebral support system, comprising:
a bottom portion having a top recess facing generally cranially when the bottom portion is positioned within an intervertebral space; and

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a top portion having a bottom recess facing generally caudally and, wherein the top and bottom recesses interlock with the top recess of bottom portion together when the top portion is positioned on top of the bottom portion within the intervertebral space.

27. (Currently amended) A method of supporting adjacent vertebrae by assembling an intervertebral support assembly between adjacent vertebrae, comprising:

providing a bottom portion having a top recess, and a top portion having a bottom recess;

advancing a the bottom portion having a top recess into a patient's intervertebral space such that the top recess faces generally cranially; and

advancing a the top portion having a bottom recess into a the patient's intervertebral space such that the bottom recess faces generally caudally and;
wherein the top recess on the bottom portion interlocks with the bottom top recess on the top bottom portion such that a top surface on the bottom portion is generally coplanar with a top surface top portion, and such that a bottom surface on the bottom portion is generally coplanar with a bottom portion on the top portion.